	Application No.	Applicant(s)
	10/085,915	LU ET AL.
Notice of Allowability	Examiner	Art Unit	
	Paul Contino	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to <u>30 March 2005</u>.

2. ☒ The allowed claim(s) is/are <u>1-20</u>.

3. ☒ The drawings filed on <u>28 February 2002</u> are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian Szymczak (Reg. No. 47,120) on April 13, 2005.

In claim 5, line 3, "and the" at the beginning of line 3 should be deleted and replaced with "further comprising the".

In claim 9, line 1, "system (MCS)" between "computer" and "with" should be deleted.

In claim 9, line 2, "MCS" between "the" and "comprising" should be deleted and replaced with "multi-node computer".

In claim 10, line 1, "system" between "computer" and "of" should be deleted.

In claim 10, line 2, "MCS" between "the" and "comprises" should be deleted and replaced with "multi-node computer".

In claim 11, line 1, "system" between "computer" and "of" should be deleted.

In claim 12, line 1, "system" between "computer" and "of" should be deleted.

In claim 12, line 4, "MCS" between "the" and "further" should be deleted and replaced with "multi-node computer".

In claim 13, line 1, "system" between "computer" and "of" should be deleted.

In claim 14, line 1, "system" between "computer" and "of" should be deleted.

In claim 14, line 3, "MCS" between "the" and "further" should be deleted and replaced with "multi-node computer".

In claim 15, line 1, "system" between "computer" and "of" should be deleted.

In claim 15, line 2, "MCS" between "the" and "comprises" should be deleted and replaced with "multi-node computer".

In claim 16, line 2, "system (MCS)" between "computer" and "with" should be deleted.

In claim 16, line 10, "with an error recovery code" should be inserted between "hub" and "."

In claim 16, line 11, "MCS" between "the" and "automatically" should be deleted and replaced with "multi-node computer".

In claim 16, line 12, "MCS" between "the" and "for" should be deleted and replaced with "multi-node computer".

In claim 17, line 2, "MCS" between "the" and "comprises" should be deleted and replaced with "multi-node computer".

In claim 19, line 3, "MCS" between "the" and "further" should be deleted and replaced with "multi-node computer".

Allowable Subject Matter

2.   Claims 1-20 are allowed.

3.   The following is an examiner's statement of reasons for allowance:

Claim 1 is allowed because of the following limitations:

A method of recovering from basic input/output system (BIOS) corruption in a multi-node computer with a first node including a first central processing unit (CPU) hub and a second node including a second central processing unit (CPU) hub, a first firmware unit in the first node, a second firmware unit in the second node, and a multi-port switch for internodal communications the method comprising:

configuring the multi-port switch to provide a communication path between the first CPU hub and the second CPU hub with an error recovery code;

in response to initiation of a boot sequence for the multi-node computer, automatically checking a BIOS image in the first firmware unit in the first node of the multi-node computer for corruption;

determining if the second firmware unit contains a good copy of the BIOS image; and

in response to detecting corruption of the BIOS image in the first firmware unit, and in response to determining that the second firmware unit contains a good copy of the BIOS image,

automatically recovering from the corruption of the BIOS image by copying a good BIOS image

from the second firmware unit in the second node to the first firmware unit in the first node.

Claims 2-8 are allowed based upon their dependence to claim 1.

Claim 9 is allowed because of the following limitations:

A multi-node computer with automatic basic input/output system (BIOS) recovery, the

multi-node computer comprising:

a first node that includes a first set of one or more central processing units (CPUs)

communicatively connected with a first CPU hub;

a second communicatively connected to the first node, wherein the second node includes

a second set of one or more CPUs communicatively connected with a second CPU hub;

a multi-port switch for internodal communications communicatively connected to the

first CPU hub and the second CPU hub and configured by an error recovery code to provide a

communication path between the first CPU hub and the second CPU hub;

a first firmware unit in the first node, communicatively connected to the first set of one or

more CPUs;

BIOS code in the firmware unit;

a second firmware unit in the second node that also contains the BIOS code, the second

firmware unit communicatively connected to the second set of one or more CPUs; and

BIOS recovery logic, in at least one of the first and second firmware units, that determines if the second firmware unit contains a good copy of the BIOS code, and automatically recovers from BIOS corruption by causing a copy of the BIOS code from the second firmware unit in the second node to be copied to the first firmware unit in the first node, in response to detecting corruption in the BIOS code in the first node, and in response to determining that the second firmware unit contains a good copy of the BIOS code.

Claims 10-15 are allowed based upon their dependence to claim 9.

Claim 16 is allowed because of the following limitations:

A program product that provides automatic basic input/output system (BIOS) recovery in a multi-node computer with first and second nodes, a first firmware unit communicatively connected with a first CPU hub in the first node, a second firmware unit communicatively connected with a second CPU hub in the second node and a multi-port switch for internodal communications communicatively connected to the first CPU hub and the second CPU hub, the program product comprising:

a computer-usable medium encoding recovery instructions which, when executed, perform operations comprising:

configuring the multi-port switch to provide a communication path between the first CPU hub and the second CPU hub with an error recovery code;

in response to initiation of a boot sequence for the multi-node computer, automatically

checking a BIOS image in the first firmware unit in the first node of the multi-node computer for

corruption;

automatically determining if the second firmware unit contains a good copy of the BIOS

image; and

in response to detecting corruption of the BIOS image in the first firmware unit, and in

response to determining that the second firmware unit contains a good copy of the BIOS image,

automatically recovering from the corruption of the BIOS image by causing a good BIOS image

from the second firmware unit in the second node to be copied to the first firmware unit in the

first node.

Claims 17-20 are allowed based upon their dependence to claim 16.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3657.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SCOTT BADERMAN
PRIMARY EXAMINER

PFC
April 13, 2005